

REMARKS

Figs. 1A and 8 have been labeled “Prior Art”, and the reference character “16” has been deleted from Fig. 1B. The reference character “15” has not been deleted, because it is mentioned in the specification, for example at page 10, lines 1 and 9. Finally, the reference character “72” has been replaced with the reference character “242”, on page 10 of the specification, and “240” has been replaced with “242” in Fig. 8. Accordingly, withdrawal of the objections to the drawings is respectfully requested.

Claims 1-15 stand rejected under § 103 on the basis of Sugawara et al., JP ‘734 and Vis et al. ‘060. Independent claim 1 now includes the subject matter of claims 2 and 3, independent claim 6 includes claims 7 and 8 and independent claim 11 includes claims 12 and 13. Applicants traverse this rejection because neither reference, alone or in combination, discloses or suggests detecting a frequency offset by employing a leading block and an opening portion of split preambles to initialize a timing reproducing loop. Moreover, neither reference discloses or suggests a phase continuity of waveforms in the plurality of preambles.

The present invention relates to an information recording/reading apparatus for detecting a frequency offset by employing a leading portion and an ending portion of split preambles, and reading user data from a middle portion of the split preambles. The frequency offset thereof is detected from a difference between a phase difference of a waveform in the leading portion relative to a reference waveform and a phase difference of a waveform in the ending portion relative to the reference waveform. The present invention employs phase continuity of the waveform in the split preambles.

Sugawara describes an information recording/reproducing apparatus for detecting a phase error by employing a plurality of revise bytes inserted into user data, and performing a timing reproduction by employing a digital PLL.

Sugawara does not detect a frequency offset by employing a leading block and an ending block of split preambles, to initialize a timing reproducing loop. Moreover, Sugawara does not teach a phase continuity of waveforms in the plurality of revise bytes.

Therefore, Sugawara does not disclose a fast extraction in a timing reproducing loop by employing a leading portion and an ending portion of split preambles and a reading of a user data having a middle portion of the split preambles.

Vis relates to an apparatus for reading user data by reproducing a timing based on a plurality of preambles, and a secondary sync mark if a primary sync mark is undetectable due to a thermal asperity.

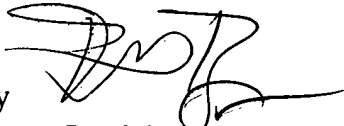
Vis does not detect a frequency offset by employing a leading portion and an ending portion of split preambles to initialize a timing reproducing loop. Vis also does not teach a phase continuity of waveforms in the plurality of preambles.

Therefore, Vis does not disclose a fast extraction of the timing reproducing loop by employing a leading block and an ending block of split preambles and reading user data from a middle portion of the split preambles. Withdrawal of this rejection is respectfully requested.

For the foregoing reasons, applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

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June 24, 2005

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In the Drawings:

The attached sheets of drawings include changes to Figs. 1A, 1B and 8. Annotated sheets showing the changes are attached. The replacement sheets are also enclosed and should replace the originally filed sheets.



Prior Art

NON-SPLIT PREAMBLE

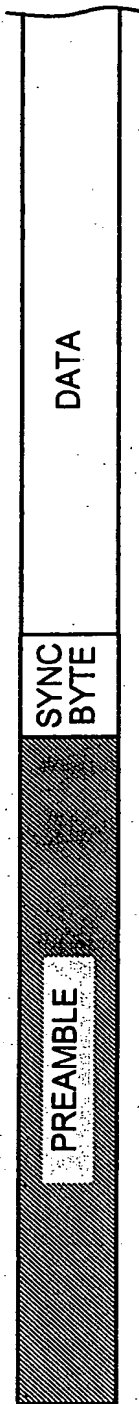


FIG.1A

2 SPLIT PREAMBLES

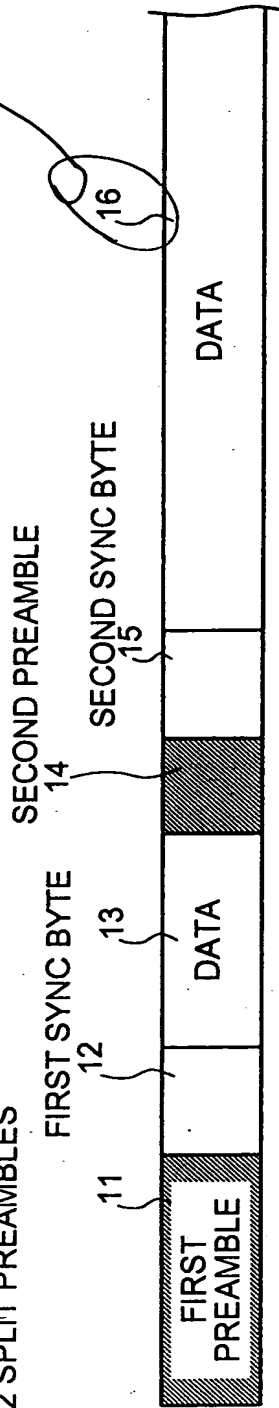


FIG.1B

3 SPLIT PREAMBLES

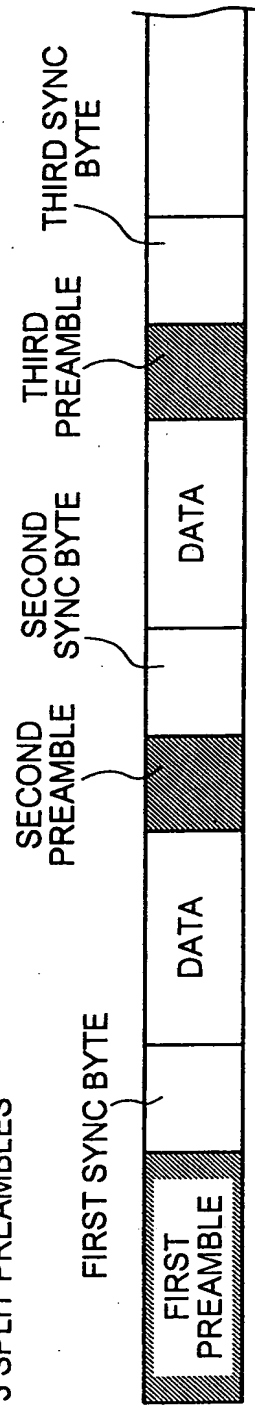


FIG.1C

Proter

FIG. 8

